

# Unit 9 - Chapter 9: Relate Fractions and Decimals

Content Area: **Mathematics**  
Course(s): **Math 4**  
Time Period: **February**  
Length: **2 weeks**  
Status: **Published**

## Unit Summary

In this unit, students will relate tenths, hundredths, and decimals as well as equivalent fractions and decimals. Students will also relate fractions, decimals, and money. In addition, students will add fractional parts of 10 and 100 and compare decimals. A fraction with a denominator that is a multiple of ten can be represented in decimal form. Using model such as decimal squares and number lines helps set the foundation for understanding. Relating fractions and decimals to money is a real-life skill that students continue to need practice with.

## Standards

MA.4.NF.C.5	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.
MA.4.NF.C.6	Use decimal notation for fractions with denominators 10 or 100.
MA.4.NF.C.7	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$ , $=$ , or $<$ , and justify the conclusions, e.g., by using a visual model.
MA.4.MD.A.2	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
PFL.9.1.4.D.1	Determine various ways to save.
PFL.9.1.4.D.2	Explain what it means to “invest.”
PFL.9.1.4.D.3	Distinguish between saving and investing.
PFL.9.1.4.E.1	Determine factors that influence consumer decisions related to money.
PFL.9.1.4.E.2	Apply comparison shopping skills to purchasing decisions.
PFL.9.1.4.F.1	Demonstrate an understanding of individual financial obligations and community financial obligations.
TECH.8.1.5	Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
TECH.8.1.5.A.CS2	Select and use applications effectively and productively.

## Student Learning Objectives

Students will learn to:

- record tenths as fractions and as decimals.
- use decimal notation for fractions with denominators 10 or 100.
- record tenths and hundredths as fractions and decimals.

- use decimal notation for fractions with denominators 10 or 100.
- solve problems by using the strategy *act it out*.
- add fractions when the denominators are 10 or 100.
- compare decimals to hundredths by reasoning about their size.
- explain what it means to invest.
- determine factors that influence consumer decisions related to money.
- distinguish between saving and investing.
- demonstrate an understanding of individual financial obligations and community financial obligations.

## Essential Questions

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- How can you record tenths as fractions and decimals?
- How can you record hundredths as fractions and decimals?
- How can you relate fractions, decimals, and money?
- How can you use the strategy of *act it out* to solve problems that use money?
- How can you add fractions when the denominators are 10 or 100?
- How can you compare decimals?

## Enduring Understandings

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Students will understand:

- decimal notation for fractions, and compare decimal fractions.
- decimal notation can be used to solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

## Application

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Students will be able to independently use their learning to:

- record tenths as fractions and as decimals.
- use decimal notation for fractions with denominators 10 or 100.
- record tenths and hundredths as fractions and decimals.
- use decimal notation for fractions with denominators 10 or 100.
- solve problems by using the strategy *act it out*.
- add fractions when the denominators are 10 or 100.
- compare decimals to hundredths by reasoning about their size.

## Skills

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Students will be skilled at....

- recording tenths as fractions and as decimals.
- using decimal notation for fractions with denominators 10 or 100.
- recording tenths and hundredths as fractions and decimals.
- using decimal notation for fractions with denominators 10 or 100.
- solving problems by using the strategy *act it out*.
- adding fractions when the denominators are 10 or 100.
- comparing decimals to hundredths by reasoning about their size.